Reg.No…… **FYCBTA22/4**
Name……..

FIRST YEAR HIGHER SECONDARY PRE MODEL EXAMINATION

Part – III
BIOLOGY
PART – A: BOTANY
(Maximum: 30 Scores)
Anatomy of flowering plants Time: I Hour
Cool-off time: 10 Minutes

PART I

Answer any seven questions from 1 to 10. Each carries 1 score. (7x1=7)

1. What are trichomes?

2. Phloem of Angiosperms contains sieve tubes and companion cells.
   Phloem of Gymnosperms contains _____ and _____.

3. Observe the relationship between first two terms and fill in the blank:
   Parenchyma: storage
   Sclerenchyma: _____

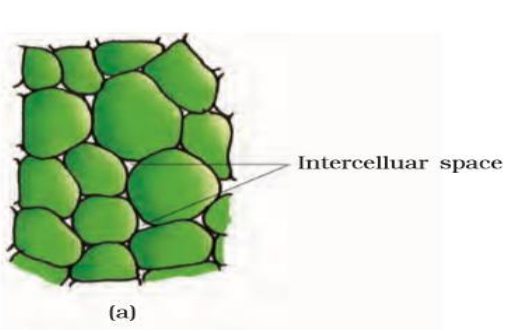
4. The parenchyma cells which lie between the xylem and the phloem in root are called _____

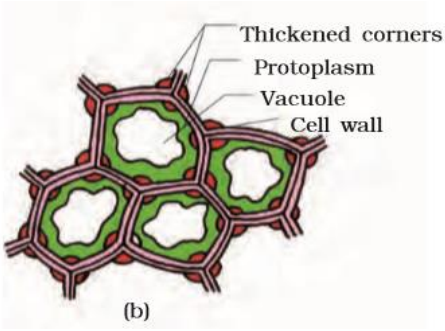
5. Choose the correct answer:-
   All tissues on the inner side of the endodermis constitute _____
   (a) *Pericycle* (c) *Stele*
   (b) *Vascular bundle* (d) *Pith*

6. Choose the correct answer:-
   Vascular bundles which have cambium between xylem and phloem is _____
   (a) *Closed vascular bundle* (b) *Open vascular bundle*
   (c) *Radial vascular bundle* (d) *Peripheral vascular bundle*

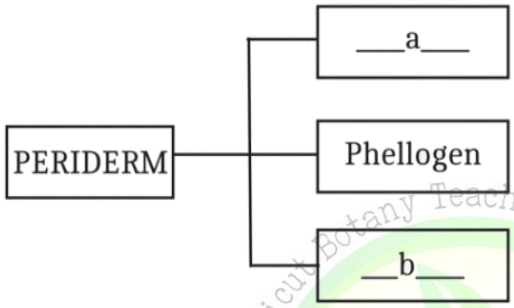
7. Fill in the blank
   Companion cells are closely associated with_____

8. Identify the simple tissues (a) and (b) given below





9. Complete the flow chart given below

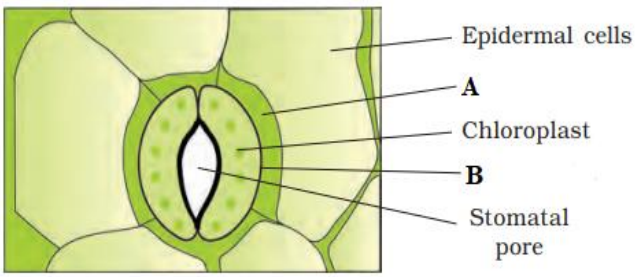


10. What are the two complex tissues present in plants?

PART II

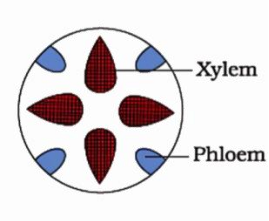
Answer any seven questions from 11 to 20. Each carries 2 scores. (7x2=14)

10. Diagrammatic representation of stoma is given below.

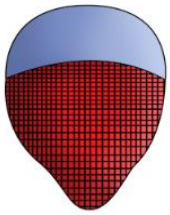


(a) Label A and B.
(b) What is the function of stomata in plants?

12. Observe the diagrams given below.
(a) Identify the type of vascular bundles A and B.
(b) Differentiate A and B.



A



B

13. Differentiate between *heart wood* and *sap wood*.

14. Xylem is composed of four different kinds of elements.
Name the four elements of xylem.

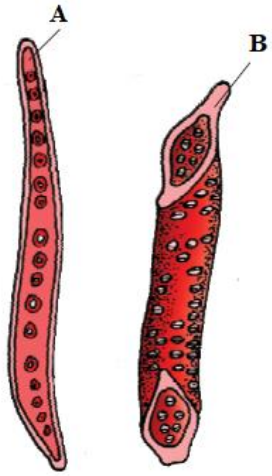
15. In temperate regions, *spring wood* and *autumn wood* are formed and they constitute an annual ring.
Explain the formation of *spring wood* and *autumn woods* in plants.

16. Match the following columns A and B

A	B
a) Lenticels	*i) Pectin*
b) Collenchyma	*ii) Casparian strips*
c) Endodermal cells	*iii) Lignin*
d) Sclereids	*iv) Exchange of gases*

17. Distinguish between endarch and exarch conditions in xylem.

18. (a) Identify the cells A and B given below
(b) Which cell given below is absent in Gymnosperms?



19. Observe the terms given below:-

[*Xylem, Root hairs, Pith, Stomata, Trichomes, Phloem, Cambium, Bulliform cells*]
Identify the structures seen in epidermal tissue system.

20. Following are the features in the T.S of a plant part:

(a) More than six radial vascular bundles
(b) Parenchymatous homogenous cortex
(c) Large pith
(d) Epidermis with root hairs
(e) Pericycle
(f) Endodermis with casperian strips

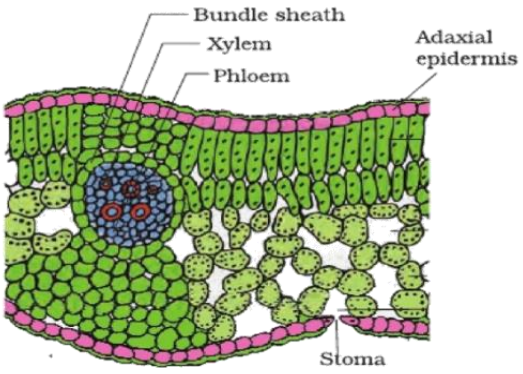
(i) Identify the plant.
(ii) Re- arranges the features in their correct order from periphery to the centre.

PART III

Answer any three questions from 21 to 25. Each carries 3 scores. (3x3=9)

21. (a) Define bark
(b) Name any two tissue type in bark.

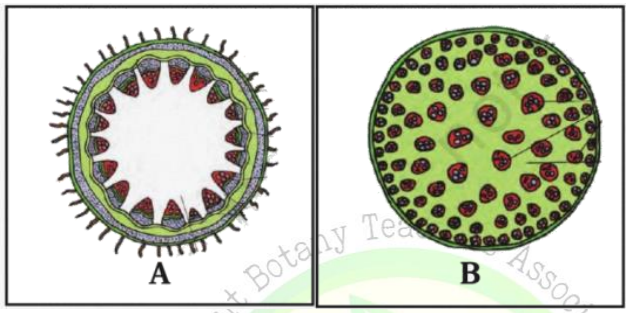
22. Diagram of T.S of a plant part is given below.



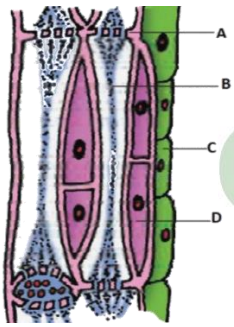
(a) Identify the specimen.
(b) Write any two features of the mesophyll cells of the given figure.

23. Formation of *cambial ring* is the first event of secondary growth in dicot plants.
(a) Explain the formation of *cambial ring* in dicot plants.
(b) Name the tissues produced by *cambial ring* in dicot plants.

24. T.S. of specimens A and B are given below:
(a) Identify the specimens A and B.
(b) Write any two anatomical differences between A and B.



25. Observe the diagram given below:



(a) Identify the tissue.
(b) Label the parts A, B, C and D.